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Question1. Write a program for Password Management System

- File creation: Ask user to enter N user names and their passwords. Store usernames and passwords into a file named “loginfile.txt”. Store each user and password in one line.
- File Processing: Write a program that opens your “security.txt” file and reads usernames and passwords from it. Store user names in one list and passwords in another lists.
- Querying: ask user to enter user name and password for verification. If they match the values stored in the lists, print a message “Login Successful”. Otherwise print a message “Login Failed, try again”.

In [1]:
```
userl=[]
passl=[]
file = open('login.txt','w')
n=int(input("enter n to get inputs: "))
for i in range(n):
    user=input("enter the username: ")
    passw=input("enter the password:")
    file.write(user)
    file.write(passw)
    userl.append(user)
    passl.append(passw)
print(userl)
print(passl)
file.close()
user=input("enter the username: ")
passw=input("enter the password:")
with open("login.txt", "r") as file:
    data = file.readlines()
    for line in data:
        word = line.split()
        if user in userl and passw in passl:
            print("Login Successful")
        else:
            print("Login Failed,try again")
```

```
enter n to get inputs: 3
enter the username: hari
enter the password:hema
enter the username: hema
enter the password:hari
enter the username: harihe
enter the password:hehari
['hari', 'hema', 'harihe']
['hema', 'hari', 'hehari']
enter the username: hari
enter the password:hema
Login Successful
```

Question2. Write a program for Student Performance Analysis

- Create a text file, 'marks.txt', with N marks as floating point numbers. Open the file, read marks from it and compute and print the highest mark.
- If the user runs the program more than once you should not overwrite the previous text file – simply append the marks to the end of the file.
- Modify the above program so that it also prints Top-3 highest marks (Note: you may need to use list concept)
- Modify the above program so that it also prints the Lowest-3 marks.

In [2]:
```
m=open("marks.txt","a")
n=int(input("No of Marks:"))
l=[]
for i in range(n):
    li=float(input("Enter value : "))
    l.append(li)
m.write(str(l))
m.close()
```

```
No of Marks:5
Enter value : 98
Enter value : 78
Enter value : 56
Enter value : 67
Enter value : 90
```

In [4]:
```
m=open("marks.txt","r")
m.read()
print("Top Mark : ",max(l))
l.sort(reverse=True)
print("Top 3 Mark : ",(l[:3]))
l.sort()
print(" Low Mark : ",min(l))
print("Low 3 Mark : ",(l[:3]))
m.close()
```

```
Top Mark :  98.0
Top 3 Mark :  [98.0, 90.0, 78.0]
 Low Mark :  56.0
Low 3 Mark :  [56.0, 67.0, 78.0]
```

Question3. Write a program for Stock Price Analysis

- File Creation: Continually prompt a user for stock name, followed by price values for 5 days. Each row indicates stock name and daily prices of one stock. Store these values in a text file called “stock-prices.txt”. Open the file in Append Mode. Prompt message “Do you want to continue? “ and stop reading values accordingly. Then, you can close your file.
- File Processing: Now, open your file for processing. Print stock name, minimum price, maximum price and average price values.
- You can also print which day stock price was lowest in the week and which day stock price was highest. So, modify your print statement to print stock name, minimum price & day of minimum price, maximum price & day of maximum price and average price values. (Hint: Use enumerate to get index values)

In [20]:
```
while True:
    sn=input("Stock Name :")
    f=open("stock_prices.txt","a")
    f.write(sn)
    f.write('\t')
    for i in range(5):
        pr=input("price :")
        f.write(pr)
        f.write('\t')
    f.write('\n')
    q=input("Want to continue(d for Done):")
    if q=="d":
        break
f.close()
```

```
Stock Name :Tata
price :984
price :876
price :784
price :1003
price :997
Want to continue(d for Done):d
```

In [24]:
```
for st in open("stock_prices.txt","r").readlines():
    low=[]
    avg=0
    cnt=st.split()
    for i in range(1,5):
        low.append(int(cnt[i]))
        mx=max(low)
        imx=low.index(mx)
        mn=min(low)
        imn=low.index(mn)
        avg=sum(low)/5
    print("Max Price ",mx," at day ",imx+1)
    print("Min Price ",mn," at day ",imn+1)
    print("Average Price :" ,avg)
```

```
Max Price  1003  at day  4
Min Price  784  at day  3
Average Price : 729.4
```

Question4. Write a program for File Explorer

- Display the contents of file
- Count the number of lines in a text file. (Use splitlines())
- Count the number of unique words in a file.
- Find frequency of words in a given file. (Hint: Use Counter object)
- Show a random line in a file. (Use Random object)

In [ ]:
```
def count_lines(file):
    count = 0
    with open (file,"r") as func:
        for line in func:
                count += 1
        print(count)
```

In [7]:
```
f=open('hello.txt','w')
f.write('hari \n')
f.write('prasad \n')
f.write('Data science')
f.close()
```

In [8]:
```
##a
print("1.Display the contents of file:")
f = open('hello.txt','r')
display =f.read()
print(display)
f.close()
print(" ")
```

```
1.Display the contents of file:
hari
prasad
Data science
```

In [9]:
```
##b
print("2.Count the number of lines in a text file:")
file = open('hello.txt',"r")
Counter = 0
a = file.read()
a.split("\n")
for i in a:
    if i :
        Counter += 1
print("Number of lines in the text file:",Counter)
print("\n")
```

```
2.Count the number of lines in a text file:
Number of lines in the text file: 26
```

In [10]:
```
##c
print("3.Count the num of unique word in a file:")
num_words = 0
c = open('hello.txt','r')
for line in c:
    words = line.split()
    num_words += len(words)
print("Num of words:",num_words)
c.close()
print("\n")
```

```
3.Count the num of unique word in a file:
Num of words: 4
```

In [11]:
```
##d
print("4.Find the frequency of words in a given file:")
fname = input('Enter the file name:')
try:
    fhand = open(fname)
    counts = dict()
    for line in fhand:
        words = line.split()
        for word in words:
            if word in counts:
                counts[word] +=1
            else:
                counts[word] = 1
    print(counts)
except:
    print("file cannot open:",fname)
print("\n")
```

```
4.Find the frequency of words in a given file:
Enter the file name:hello.txt
{'hari': 1, 'prasad': 1, 'Data': 1, 'science': 1}
```

In [12]:
```
##e
import random
def random_line(fname):
    lines = open(fname).read().splitlines()
    return random.choice(lines)
print(random_line('hello.txt'))
```

```
hari
```

Question5. [File Searcher]. Develop an application in Python to read through the email data ("mbox-short.txt") and when you find line that starts with "From", you will split the line into words using the split function. We are interested in who sent the message, which is the second word on the From line: From stephen.marquard@uct.ac.za (mailto:stephen.marquard@uct.ac.za) Sat Jan 5 09:14:16 2008. You will parse the From line and print out the second word for each From line, then you will also count the number of From (not From:) lines and print out a count at the end

In [13]:
```
##A
fhand = open('mbox-short.txt')
for line in fhand:
    line = line.rstrip()
    if line.startswith('From'):
        print(line)
```

```
From stephen.marquard@uct.ac.za Sat Jan  5 09:14:16 2008
From: stephen.marquard@uct.ac.za
From louis@media.berkeley.edu Fri Jan  4 18:10:48 2008
From: louis@media.berkeley.edu
From zqian@umich.edu Fri Jan  4 16:10:39 2008
From: zqian@umich.edu
From rjlowe@iupui.edu Fri Jan  4 15:46:24 2008
From: rjlowe@iupui.edu
From zqian@umich.edu Fri Jan  4 15:03:18 2008
From: zqian@umich.edu
From rjlowe@iupui.edu Fri Jan  4 14:50:18 2008
From: rjlowe@iupui.edu
From cwen@iupui.edu Fri Jan  4 11:37:30 2008
From: cwen@iupui.edu
From cwen@iupui.edu Fri Jan  4 11:35:08 2008
From: cwen@iupui.edu
From gsilver@umich.edu Fri Jan  4 11:12:37 2008
From: gsilver@umich.edu
From gsilver@umich.edu Fri Jan  4 11:11:52 2008
From: gsilver@umich.edu
From zqian@umich.edu Fri Jan  4 11:11:03 2008
From: zqian@umich.edu
From gsilver@umich.edu Fri Jan  4 11:10:22 2008
From: gsilver@umich.edu
From wagnermr@iupui.edu Fri Jan  4 10:38:42 2008
From: wagnermr@iupui.edu
From zqian@umich.edu Fri Jan  4 10:17:43 2008
From: zqian@umich.edu
From antranig@caret.cam.ac.uk Fri Jan  4 10:04:14 2008
From: antranig@caret.cam.ac.uk
From gopal.ramasammycook@gmail.com Fri Jan  4 09:05:31 2008
From: gopal.ramasammycook@gmail.com
From david.horwitz@uct.ac.za Fri Jan  4 07:02:32 2008
From: david.horwitz@uct.ac.za
From david.horwitz@uct.ac.za Fri Jan  4 06:08:27 2008
From: david.horwitz@uct.ac.za
From david.horwitz@uct.ac.za Fri Jan  4 04:49:08 2008
From: david.horwitz@uct.ac.za
From david.horwitz@uct.ac.za Fri Jan  4 04:33:44 2008
From: david.horwitz@uct.ac.za
From stephen.marquard@uct.ac.za Fri Jan  4 04:07:34 2008
From: stephen.marquard@uct.ac.za
From louis@media.berkeley.edu Thu Jan  3 19:51:21 2008
From: louis@media.berkeley.edu
From louis@media.berkeley.edu Thu Jan  3 17:18:23 2008
From: louis@media.berkeley.edu
From ray@media.berkeley.edu Thu Jan  3 17:07:00 2008
From: ray@media.berkeley.edu
From cwen@iupui.edu Thu Jan  3 16:34:40 2008
From: cwen@iupui.edu
```

```
From cwen@iupui.edu Thu Jan  3 16:29:07 2008
From: cwen@iupui.edu
From cwen@iupui.edu Thu Jan  3 16:23:48 2008
From: cwen@iupui.edu
```

In [18]:
```
##B
fhand = open('mbox-short.txt')
count = 0
for line in fhand:
    line = line.rstrip()
    if line =="":continue
    words = line.split()
    if words[0] !="From":continue
    print(words[1])
    count = count+1
print("There were",count,"Lines in the file with From as the first word")
```

```
stephen.marquard@uct.ac.za
louis@media.berkeley.edu
zqian@umich.edu
rjlowe@iupui.edu
zqian@umich.edu
rjlowe@iupui.edu
cwen@iupui.edu
cwen@iupui.edu
gsilver@umich.edu
gsilver@umich.edu
zqian@umich.edu
gsilver@umich.edu
wagnermr@iupui.edu
zqian@umich.edu
antranig@caret.cam.ac.uk
gopal.ramasammycook@gmail.com
david.horwitz@uct.ac.za
david.horwitz@uct.ac.za
david.horwitz@uct.ac.za
david.horwitz@uct.ac.za
stephen.marquard@uct.ac.za
louis@media.berkeley.edu
louis@media.berkeley.edu
ray@media.berkeley.edu
cwen@iupui.edu
cwen@iupui.edu
cwen@iupui.edu
There were 27 Lines in the file with From as the first word
```

Question6. Write a program to read and write CSV files

- File Creation: Create MS Excel file (“student_marks.csv”) with 5 rows of student name, mark1, mark2, mark3, mark4. Use comma to separate each value in a row.
- File Display: Now, open your CSV file and display the file contents row by row (More information at: https://docs.python.org/3/library/csv.html).
- File Writing: Now, open (“student_marks.csv”) for writing. Ask user to enter name followed by 4 marks for one new student and write them onto the file.

In [34]:
```
from csv import writer
def append_list_as_row(file_name, list_of_elem):
    with open('student_marks.csv','at',newline='')as write_obj:
        csv_writer = writer(write_obj)
        csv_writer.writerow(list_of_elem)
row_contents  = ['aish',68,78,89,87,90]
row_contents1 = ['princy',68,78,89,87,90]
row_contents2 = ['veena',68,78,89,87,90]
row_contents3 = ['shneka',68,78,89,87,90]
append_list_as_row('student_marks.csv',row_contents)
append_list_as_row('student_marks.csv',row_contents1)
append_list_as_row('student_marks.csv',row_contents2)
append_list_as_row('student_marks.csv',row_contents3)
```

In [37]:
```
import csv
with open('student_marks.csv',newline ='')as csvfile:
    reader = csv.reader(csvfile,delimiter = ' ',quotechar = 'l')
    for row in reader:
        print(', '.join(row))
```

```
diviya,68,78,89,87,90
akshmi,68,78,89,87,90
veena,68,78,89,87,90
aish,68,78,89,87,90
princy,68,78,89,87,90
veena,68,78,89,87,90
shneka,68,78,89,87,90
```

In [ ]: